



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,212	11/22/2006	Valerie Frankard	1187-30	2213
28249	7590	08/17/2009	EXAMINER	
DILWORTH & BARRESE, LLP			COLLINS, CYNTHIA E	
1000 WOODBURY ROAD				
SUITE 405			ART UNIT	PAPER NUMBER
WOODBURY, NY 11797			1638	
			MAIL DATE	DELIVERY MODE
			08/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/583,212	FRANKARD ET AL.
	Examiner	Art Unit
	Cynthia Collins	1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 April 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5,9 and 11-28 is/are pending in the application.
 4a) Of the above claim(s) 1-3 and 15-28 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 4,5,9 and 11-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

Election/Restrictions

The Amendment filed April 27, 2009 has been entered.

Claims 6-8, 10 and 29-34 are cancelled.

Claims 4, 9 and 11 are currently amended.

Claims 1-5, 9 and 11-28 are pending.

Claims 1-3 and 15-28 are withdrawn.

Claims 4-5, 9 and 11-14 are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11, and claims 12-14 dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11 is indefinite in the recitation of “preferably a prolamin promoter”, as it is unclear whether and under what conditions a prolamin promoter would be preferred.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4-5 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by INZE et al.

I (WO 03/085115, published 16 October 2003).

Claims 4-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by INZE et al.

II (U.S. Patent Application Publication US 2005/0221290, published October 6, 2005 and filed April 8, 2003).

The claims are drawn to a method for improving plant growth characteristics, said method comprising introducing and expressing in a plant an isolated nucleic acid molecule encoding a GRUBX protein, said GRUBX protein consisting of the amino acid sequence set forth in SEQ ID NO:2, including a method wherein said nucleic acid molecule encoding a GRUBX protein is overexpressed in a plant, including a method wherein said nucleic acid molecule is set forth in SEQ ID NO: 1.

INZE et al. I and II teach a method comprising introducing and expressing or overexpressing in a plant a nucleic acid molecule isolated from the plant *Nicotiana tabacum* that comprises the nucleotide sequence set forth in SEQ ID NO: 1, and that encodes a protein consisting of the amino acid sequence set forth in SEQ ID NO:2 (See INZE et al. I and II SEQ

ID NO:61; INZE et al. I page 12 lines 4-19 and page 13 lines 23-26; INZE et al. II paragraphs [0060], [0063], [0067], [0068], [0069]; see also the sequence alignments below). While INZE et al. I and II are silent with respect to whether their method is “for improving plant growth characteristics”, INZE et al. I and II need not explicitly teach this limitation in order to anticipate the claimed invention, since the recitation in the preamble of claim 4 is an intended use for the claimed method, and thus not limiting.

RESULT 2
ADF38002
ID ADF38002 standard; cDNA; 1729 BP.
XX
AC ADF38002;
XX
DT 12-FEB-2004 (first entry)
XX
DB Synchronised tobacco BY2 cDNA sequence SEQ ID NO:61.
XX
KW identification; validation; plant; agrochemical; gene; ss.
XX
OS Nicotiana tabacum.
XX
PN WO2003085115-A2.
XX
PD 16-OCT-2003.
XX
PF 08-APR-2003; 2003WO-EP003703.
XX
PR 10-APR-2002; 2002EP-00447062.
PR 15-JUL-2002; 2002US-0396124P.
XX
PA (CROP-) CROPDESIGN NV.
XX
PI Inze D, Broekaert W;
XX
DR WPI; 2003-804308/75.
XX
PT Identifying and validating plant genes or proteins as targets for
PT agrochemicals, useful for producing agrochemical-resistant plants,
PT comprises determining and down regulating the gene or protein expression
PT profiles of a plant.
XX
PS Claim 12; SEQ ID NO 61; 183pp; English.
XX
CC The present invention describes a method for identifying and validating
CC plant genes/proteins as targets for agrochemicals comprising determining
CC the gene or protein expression profiles of a plant and downregulating the
CC expression of the gene or protein in the plant or plant cell. Also
CC described: (1) methods for screening candidate agrochemical compounds,
CC comprising the use of the above method or the use of any of the 785 fully
CC defined nucleotide sequences (ADF37942 to ADF38726) or protein sequences,
CC or their homologues, functional fragments or derivatives; (2) a method
CC for producing an agrochemical resistant plant, comprising the use of the
CC above-mentioned nucleotide or protein sequences; (3) an isolated nucleic
CC acid that is identified by any of the above methods or that comprises at
CC least a part of a nucleic acid sequence chosen from any of the 785
CC nucleotide sequences given in the specification; (4) a plant tolerant to
CC an agrochemical, in which the expression level of one or more of the
CC nucleic acid sequences given in the specification is modulated; and (5) a
CC harvestable part of the plant described above. The method is useful in
CC identifying and validating plant targets for agrochemicals or in
CC producing an agrochemical resistant plant. The nucleic acid or protein
CC can be used as a target for an agrochemical compound, particularly
CC herbicide. The present sequence represents a synchronised tobacco BY2
CC cDNA nucleotide sequence which is used in the exemplification of the
CC present invention.
XX
SQ Sequence 1729 BP; 527 A; 301 C; 391 G; 510 T; 0 U; 0 Other;

Art Unit: 1638

Alignment Scores:

Alignment Scores:
 Pred. No.: 1.47e-206 Length: 1729
 Score: 2310.00 Matches: 459
 Percent Similarity: 100.0% Conservative: 0
 Best Local Similarity: 100.0% Mismatches: 0
 Query Match: 100.0% Indels: 0
 DB: 2 Gaps: 0

US-10-583-212-2 (1-459) x ADF38002 (1-1729)

Qy 1 MetGlyAspMetLysAspLysValLysGlyPheMetLysLysValThrSerSerSerSer 20
 |||||
 Db 276 ATGGGTGACATGAAGGATAAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCA 335

Qy 21 GlyLysPheLysGlyGlnGlyArgValLeuGlyGlySerSerSerGlyProSerAsn 40
 |||||
 Db 336 GGTAAGTTAAAGGCAAGGTAGGGTTGGGTGGTCATCTTCAGGACCCCAAAT 395

Qy 41 HisValAsnAsnPheSerSerHisProLeuAsnThrArgGlnAspGlnGlnProSerTyr 60
 |||||
 Db 396 CATGTCATAATTTTCATCACATCCTCAAATACAAGGCAAGATCAACAACCTTCATAT 455

Qy 61 ThrLysThrSerProGlnLysProSerAsnSerAspGlnArgIleGluAsnIleCysGlu 80
 |||||
 Db 456 ACAAAAACCTCGCCTCAAAACCAAGTAATTCTGATCAAAGAATTGAGAATATATGTGAA 515

Qy 81 IleGlnPheAsnLysSerGluSerLysAspGlyPheAspProPheGlyGluLeuValThr 100
 |||||
 Db 516 ATTCAAGTCAACAAAAGTGAATCAAAGGATGGTTGATCCATTGGTGAATTAGTCACT 575

Qy 101 SerGlyLysArgAsnProLysGlyTyrSerLeuThrAsnValPheGluCysProValCys 120
 |||||
 Db 576 TCTGGGAAGAGAAACCCAAAGGTATTCACTTACTAATGTGTTGAATGCCCTGCTGT 635

Qy 121 GlySerGlyPheValSerGluGluGluValSerThrHisIleAspSerCysLeuSerSer 140
 |||||
 Db 636 GGTAGTGGTTTGTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTCT 695

Qy 141 GluValSerSerAsnLeuGlyValGluSerLysValGluValLysSerGluLeuGluThr 160
 |||||
 Db 696 GAAGTGTCTCTAATGGGAGTTGAAAGTAAGTTGAAGTAAAGTGAATTGGAAACA 755

Qy 161 CysValSerAlaTyrValSerGlyLysProSerGluGlySerValGluValIleLys 180
 |||||
 Db 756 TGTGTTAGTCGATATGTTCAAGGAAGGCCCTCAGAAGGGTCAGTGAAGTGGCTTAAAG 815

Qy 181 LeuLeuLysAsnIleValLysGluProGluAsnAlaLysPheArgLysIleArgMetGly 200
 |||||
 Db 816 TTGTTAAAGAATATTGTGAAGGAACCAAGAGAATGCCAGTTAGGAAAAATAAGGATGGG 875

Qy 201 AsnProLysIleLysGlyAlaIleGlyAspValValGlyGlyValGluLeuLeuGluPhe 220
 |||||
 Db 876 AATCCAAAATAAAAGGTCTATAGGTGATGTTGAGGAGGTGGAGCTATTGGAATT 935

Qy 221 ValGlyPheGluLeuLysGluGluGlyGlyGluIleTrpAlaValMetAspValProSer 240
 |||||
 Db 936 GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAATTGGCTGTGATGGATGTTCTTCT 995

Qy 241 GluGluGlnLeuValMetLeuLysAsnValValSerLeuLeuGluProLysLysValGlu 260
 |||||
 Db 996 GAAGAACAACTTGTATGCTTAAGAATGTAGTTCACTCTGGAACCGAAGAAGGTTGAA 1055

Qy 261 GluLeuAlaSerLeuSerGlnValLysAlaSerGluProValGluProLysLysIleAsp 280
 |||||
 Db 1056 GAGTTGGCGTCCTTACCCAAGTTAACCGAGTGAACCAGTTGAGCCGAAGAAGATTGAT 1115

Qy 281 ArgGlnIleArgValPhePheSerValProGluSerValAlaAlaLysIleGluLeuPro 300
 |||||
 Db 1116 AGACAGATTGAGTGTCTTCTGTTCCCAGAGCGTAGCAGCAAAATTGAGCTACCT 1175

Qy 301 AspSerPhePheAsnLeuSerArgGluGluLeuArgArgGluAlaGluMetArgLysLys 320
 |||||
 Db 1176 GATTCTCTTTAACCTCTACGTGAGGAATTGAGAAGAGCAGAGATGAGGAAGAAG 1235

Qy 321 LysLeuGluAspSerLysLeuLeuIleProLysSerTyrArgGluLysGlnAlaLysAla 340
 |||||
 Db 1236 AAATTAGAAGATTCCAATTATTGATTCTTAAATCTTACCGGGAAAAGCAGGCAAAGCT 1295

Qy 341 AlaArgLysLysTyrThrLysSerIleIleArgValGlnPheProAspGlyAlaLeuLeu 360
 |||||
 Db 1296 GCAAGAAAGAAGTACACAAAATCCATTACCGTGTACAGTTCCAGATGGGAGATTGCTT 1355

Qy 361 GlnGlyValPheLeuProSerGluProThrSerAlaLeuTyrGluPheValSerAlaAla 380

Art Unit: 1638

```

Db      ||||||| CAAGGTGTCTTCTACCTTCGGAGCCAAGTGCCTTTATGAGTTGTGACCGCAGCG 1415
Qy      381 LeuLysGluProSerLeuGluPheGluLeuLeuHisProValLeuLysLysArgVal 400
Db      ||||||| 1416 TAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTGCTGTTAAAAAGCGGGTG 1475
Qy      401 IleProHisPheProAlaAlaGlyGluArgAlaValThrValGluGluGluAspLeuVal 420
Db      ||||||| 1476 ATTCCCCATTTCCAGCTGCTGGGAGAGGGCTGAAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      421 ProAlaAlaLeuLeuLysPheLysProIleGluThrAspSerValValPheThrGlyLeu 440
Db      ||||||| 1536 CCTGCAGCTCTACTCAAATTAAACCTATCGAACACAGATTCTGTTGTTTACTGGTCTT 1595
Qy      441 CysAsnGluLeuLeuGluIleSerGluProLeuGluThrGlySerValAlaSerSer 459
Db      ||||||| 1596 TGTAATGAGCTCTTGAAATTAGCGAGCCCCTCGAGACCGGATCAGTTGCTTCCTCG 1652

RESULT 2
ADF38002
ID  ADF38002 standard; cDNA; 1729 BP.
XX
AC  ADF38002;
XX
DT  12-FEB-2004 (first entry)
XX
DE  Synchronised tobacco BY2 cDNA sequence SEQ ID NO:61.
XX
KW  identification; validation; plant; agrochemical; gene; ss.
XX
OS  Nicotiana tabacum.
XX
PN  WO2003085115-A2.
XX
PD  16-OCT-2003.
XX
PF  08-APR-2003; 2003WO-EP003703.
XX
PR  10-APR-2002; 2002EP-00447062.
PR  15-JUL-2002; 2002US-0396124P.
XX
PA  (CROP-) CROPDESIGN NV.
XX
PI  Inze D, Broekaert W;
XX
DR  WPI; 2003-804308/75.
XX
PT  Identifying and validating plant genes or proteins as targets for
PT  agrochemicals, useful for producing agrochemical-resistant plants,
PT  comprises determining and down regulating the gene or protein expression
PT  profiles of a plant.
XX
PS  Claim 12; SEQ ID NO 61; 183pp; English.
XX
CC  The present invention describes a method for identifying and validating
CC  plant genes/proteins as targets for agrochemicals comprising determining
CC  the gene or protein expression profiles of a plant and downregulating the
CC  expression of the gene or protein in the plant or plant cell. Also
CC  described: (1) methods for screening candidate agrochemical compounds,
CC  comprising the use of the above method or the use of any of the 785 fully
CC  defined nucleotide sequences (ADF37942 to ADF38726) or protein sequences,
CC  or their homologues, functional fragments or derivatives; (2) a method
CC  for producing an agrochemical resistant plant, comprising the use of the
CC  above-mentioned nucleotide or protein sequences; (3) an isolated nucleic
CC  acid that is identified by any of the above methods or that comprises at
CC  least a part of a nucleic acid sequence chosen from any of the 785
CC  nucleotide sequences given in the specification; (4) a plant tolerant to
CC  an agrochemical, in which the expression level of one or more of the
CC  nucleic acid sequences given in the specification is modulated; and (5) a
CC  harvestable part of the plant described above. The method is useful in
CC  identifying and validating plant targets for agrochemicals or in
CC  producing an agrochemical resistant plant. The nucleic acid or protein
CC  can be used as a target for an agrochemical compound, particularly
CC  herbicide. The present sequence represents a synchronised tobacco BY2
CC  cDNA nucleotide sequence which is used in the exemplification of the
CC  present invention.
XX
SQ  Sequence 1729 BP; 527 A; 301 C; 391 G; 510 T; 0 U; 0 Other;
Query Match          100.0%;  Score 1380;  DB 10;  Length 1729;
Best Local Similarity 100.0%;  Pred. No. 0;
Matches 1380;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

```

Art Unit: 1638

Qy 1 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAAGTCACATCTTCTTCA 60
Db 276 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAAGTCACATCTTCTTCA 335

Qy 61 GGTAAGTTAAAGGCCAAGGTAGGGTTGGGTGGTCATCTTCAGGACCCCAAAT 120
Db 336 GGTAAGTTAAAGGCCAAGGTAGGGTTGGGTGGTCATCTTCAGGACCCCAAAT 395

Qy 121 CATGTCATAAATTTCATCACATCCCTAAATACAAGGCAAGATCAACAACCTCATAT 180
Db 396 CATGTCATAAATTTCATCACATCCCTAAATACAAGGCAAGATCAACAACCTCATAT 455

Qy 181 ACAAAAACTTCGCCTCAAAACCAAGTAATTCTGATCAAAGAATTGAGAATATATGTGAA 240
Db 456 ACAAAAACTTCGCCTCAAAACCAAGTAATTCTGATCAAAGAATTGAGAATATATGTGAA 515

Qy 241 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTGATCCATTGGTAATTAGTCACT 300
Db 516 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTGATCCATTGGTAATTAGTCACT 575

Qy 301 TCTGGGAAGAGAAACCCAAAAGGGTATTCACTTACTAATGTGTTGAATGCCCTGCTGT 360
Db 576 TCTGGGAAGAGAAACCCAAAAGGGTATTCACTTACTAATGTGTTGAATGCCCTGCTGT 635

Qy 361 GGTAGTGGTTTGTCTGAAGAACAGGTGTCAACTCATATTGATAGCTGTTAAGTCT 420
Db 636 GGTAGTGGTTTGTCTGAAGAACAGGTGTCAACTCATATTGATAGCTGTTAAGTCT 695

Qy 421 GAAGTGTCTCTAATTGGGAGTTGAAAGTAAAGTTGAAGTTGAAAGTTGAAACCA 480
Db 696 GAAGTGTCTCTAATTGGGAGTTGAAAGTAAAGTTGAAGTTGAAACCA 755

Qy 481 TGTGTTAGTGCATATGTTCAAGGGAAAGCCCTCAGAAGGGTCAGTGAAAGTGGTCATTAAG 540
Db 756 TGTGTTAGTGCATATGTTCAAGGGAAAGCCCTCAGAAGGGTCAGTGAAAGTGGTCATTAAG 815

Qy 541 TTGTTAAAGAATATTGTGAAGAACCAAGAGAAATGCCAAGTTAGGAAAATAAGGATGGGG 600
Db 816 TTGTTAAAGAATATTGTGAAGAACCAAGAGAAATGCCAAGTTAGGAAAATAAGGATGGGG 875

Qy 601 AATCCAAAATAAAAGGTGCTATAGGTGATGTTGAGGAGGTGGAGCTATTGAAATT 660
Db 876 AATCCAAAATAAAAGGTGCTATAGGTGATGTTGAGGAGGTGGAGCTATTGAAATT 935

Qy 661 GTTGGATTGAGTTGAAAGAAGAGGTGGGAAATTGGGCTGTGATGGATGTTCTCTCT 720
Db 936 GTTGGATTGAGTTGAAAGAAGAGGTGGGAAATTGGGCTGTGATGGATGTTCTCTCT 995

Qy 721 GAAGAACAACTGTTATGCTTAAGAATGAGTTGACTCTTGGAAACCGAAGAACGGTGAA 780
Db 996 GAAGAACAACTGTTATGCTTAAGAATGAGTTGACTCTTGGAAACCGAAGAACGGTGAA 1055

Qy 781 GAGTTGGCGTCTTATCCAAGGTAAGCGAGTGAAACCGAGTTGAGCCGAAGAACATTGAT 840
Db 1056 GAGTTGGCGTCTTATCCAAGGTAAGCGAGTGAAACCGAGTTGAGCCGAAGAACATTGAT 1115

Qy 841 AGACAGATTGAGTTGTTCTTCTGTTCCGAGAGCGTAGCAGCAAAATTGAGCTACCT 900
Db 1116 AGACAGATTGAGTTGTTCTTCTGTTCCGAGAGCGTAGCAGCAAAATTGAGCTACCT 1175

Qy 901 GATTCCCTTCTTAACCTCTCACGTGAGGAATTGAGAAAGAGAACAGAGATGAGGAAGAAG 960
Db 1176 GATTCCCTTCTTAACCTCTCACGTGAGGAATTGAGAAAGAGAACAGAGATGAGGAAGAAG 1235

Qy 961 AAATTAGAAGATTCAAATTATTGATTCTAAATCTTATCGGGAAAGCAGGCAAAGCT 1020
Db 1236 AAATTAGAAGATTCAAATTATTGATTCTAAATCTTATCGGGAAAGCAGGCAAAGCT 1295

Qy 1021 GCAAGAAGAAGTACACAAAATCCATTACCGTGTACAGTTCCAGATGGAGCATTGCTT 1080
Db 1296 GCAAGAAGAAGTACACAAAATCCATTACCGTGTACAGTTCCAGATGGAGCATTGCTT 1355

Qy 1081 CAAGGTGTCTTCTACCTCGGAGCCAAGTAGTGTCTTATGAGTTGAGCGCAGCG 1140
Db 1356 CAAGGTGTCTTCTACCTCGGAGCCAAGTAGTGTCTTATGAGTTGAGCGCAGCG 1415

Qy 1141 TTAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTGCTGTTAAAAGCGGGTG 1200
Db 1416 TTAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTGCTGTTAAAAGCGGGTG 1475

Qy 1201 ATTCCCCATTTCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTTGGTT 1260

Art Unit: 1638

```

Db      1476 ATCCCCATTTCCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      1261 CCTGCAGCTCTACTCAAATTAAACCTATCGAAACAGATTCTGTTGTTTACTGGTCTT 1320
Db      1536 CCTGCAGCTCTACTCAAATTAAACCTATCGAAACAGATTCTGTTGTTTACTGGTCTT 1595
Qy      1321 TGTAATGAGCTTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1380
Db      1596 TGTAATGAGCTTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1655

```

```

RESULT 2
US-10-510-871-61
; Sequence 61, Application US/10510871
; Publication No. US20050221290A1
; GENERAL INFORMATION:
; APPLICANT: INZE, DIRK
; APPLICANT: BROEKAERT, WILLEM
; TITLE OF INVENTION: IDENTIFICATION AND VALIDATION OF NOVEL TARGETS FOR AGROCHEMICALS
; FILE REFERENCE: 4559-045163
; CURRENT APPLICATION NUMBER: US/10/510,871
; CURRENT FILING DATE: 2004-10-08
; PRIOR APPLICATION NUMBER: PCT/EP03/03703
; PRIOR FILING DATE: 2003-04-08
; PRIOR APPLICATION NUMBER: EP 02447062.7
; PRIOR FILING DATE: 2002-04-10
; PRIOR APPLICATION NUMBER: US 60/396,124
; PRIOR FILING DATE: 2002-08-01
; NUMBER OF SEQ ID NOS: 794
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 61
; LENGTH: 1729
; TYPE: DNA
; ORGANISM: Unknown Organism
; FEATURE:
; OTHER INFORMATION: polynucleotide sequence that is cell cycle modulated or
; OTHER INFORMATION: involved in the cell cycle process
US-10-510-871-61

```

Alignment Scores:

Pred. No.:	2.25e-222	Length:	1729
Score:	2310.00	Matches:	459
Percent Similarity:	100.0%	Conservative:	0
Best Local Similarity:	100.0%	Mismatches:	0
Query Match:	100.0%	Indels:	0
DB:	11	Gaps:	0

US-10-583-212-2 (1-459) x US-10-510-871-61 (1-1729)

```

Qy      1 MetGlyAspMetLysAspLysValLysGlyPheMetLysLysValThrSerSerSerSer 20
Db      276 ATGGGTGACATGAAGGATAAAAGTCAAAGGGTTCATGAAAAAAAGTCACATCTTCTTCTCA 335
Qy      21 GlyLysPheLysGlyGlnGlyArgValLeuGlyGlySerSerSerGlyProSerAsn 40
Db      336 GGTAAGTTAAAGGCCAAGGTAGGGTTTGGGTGGTTCATCTTCTCAGGACCCCTCAAAT 395
Qy      41 HisValAsnAsnPheSerSerHisProLeuAsnThrArgGlnAspGlnGlnProSerTyr 60
Db      396 CATGTCATAATTTCATCACATCCCCTAAATACAAGGCAGATCAACAACCTTCATAT 455
Qy      61 ThrLysThrSerProGlnLysProSerAsnSerAspGlnArgIleGluAsnIleCysGlu 80
Db      456 ACAAAAAACTTCGCCTCAAAACCAAGTAATTCTGATCAAAGAATTGAGAATATATGTGAA 515
Qy      81 IleGlnPheAsnLysSerGluSerLysAspGlyPheAspProGlyGluLeuValThr 100
Db      516 ATTCAAGTTCAACAAAGTGAATCAAAGGATGGTTTGATCCATTGGTGAATTAGTCACT 575
Qy      101 SerGlyLysArgAsnProLysGlyTyrSerLeuThrAsnValPheGluCysProValCys 120
Db      576 TCTGGGAAGAGAAACCCAAAAGGGTATTCACTTACTAATGTGTTGAATGCCCTGCTGT 635
Qy      121 GlySerGlyPheValSerGluGluGluValSerThrHisIleAspSerCysLeuSerSer 140
Db      636 GGTAGTGGTTTGTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTTCT 695
Qy      141 GluValSerSerAsnLeuGlyValGluSerLysValGluValLysSerGluLeuGluThr 160
Db      696 GAAGTGTCTCTAATTGGGAGTTGAAAGTAAAGTGAAGTAAAAGTGAATTGGAAACA 755
Qy      161 CysValSerAlaTyrValSerGlyLysProSerGluGlySerValGluValValIleLys 180

```

Art Unit: 1638

```

Db      756 TGTGTTAGTGCATATGTTCAAGGAAGCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG 815
Qy      181 LeuLeuLysAsnIleValLysGluProGluAsnAlaIysPheArgLysIleArgMetGly 200
Db      816 TTGTTAAAGAAATATTGTGAAGGAACCAAGAGAAATGCCAAGTTAGGAAAATAAGGATGGGG 875
Qy      201 AsnProLysIleLysGlyAlaIleGlyAspValValGlyGlyValGluLeuGluPhe 220
Db      876 AATCCAAAATAAAAGGTGCTATAGGTGATGTTGAGGAGTGGAGCTATTGGAATT 935
Qy      221 ValGlyPheGluLeuLysGluGluGlyGlyGluIleTrpAlaValMetAspValProSer 240
Db      936 GTTGGATTGAGTTGAAAGAAGAGGTGGGAAATTGGGCTGTGATGGATGTTCCCTCT 995
Qy      241 GluGluGlnLeuValMetLeuLysAsnValValSerLeuLeuGluProLysLysValGlu 260
Db      996 GAAGAACAACTGTTATGCTTAAGAATGTAGTTCACTCTGGAACCGAAGAACGGTTGAA 1055
Qy      261 GluLeuAlaSerLeuSerGlnValLysAlaSerGluProValGluProLysIleAsp 280
Db      1056 GAGTTGGCTCTTATCCCAACTTAAGGCAGTGAAACAGTTGACCGAAGAACGATTGAT 1115
Qy      281 ArgGlnIleArgValPhePheAsnSerValAlaAlaLysIleGluLeuPro 300
Db      1116 AGACAGATTGAGTGTCTTTCTGTTCCCGAGAGCGTAGCAGCAAAATTGAGCTACCT 1175
Qy      301 AspSerPhePheAsnLeuSerArgGluGluLeuArgArgGluAlaGluMetArgLysLys 320
Db      1176 GATTCCTCTTTAACCTCTCACGTGAGGAATTGAGAAAGAGAACGAGATGAGGAAGAAG 1235
Qy      321 LysLeuGluAspSerLysLeuLeuIleProLysSerTyrArgGluLysGlnAlaLysAla 340
Db      1236 AAATTAGAAGATTCCAATTATTGATTCTAAATCTTATCGGAAAGCAGGCAAAGCT 1295
Qy      341 AlaArgLysLysTyrThrLysSerIleIleArgValGlnPheProAspGlyAlaLeuLeu 360
Db      1296 GCAAGAAAAGTACACAAAATCATTATCCGTGTACAGTTCCAGATGGACATTGCTT 1355
Qy      361 GlnGlyValPheLeuProSerGluProThrSerAlaIeuTyrGluPheValSerAlaAla 380
Db      1356 CAAGGTGTCTTCTACCTCGAGCCAAGTAGTGTCTTTATGAGTTGTGAGCGCAGCG 1415
Qy      381 LeuLysGluProSerLeuGluPheGluLeuLeuHisProValLeuValLysLysArgVal 400
Db      1416 TTAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTGCTGTAAAAGCGGGTG 1475
Qy      401 IleProHisPheProAlaAlaGlyGluArgAlaValThrValGluGluGluAspLeuVal 420
Db      1476 ATTCCCCATTTCAGCTGCTGGGAGAGGGCTTAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      421 ProAlaAlaLeuLysPheLysProIleGluThrAspSerValValPheThrGlyLeu 440
Db      1536 CCTGCAGCTCTACTCAAATTAAACCTATCGAACAGATTCTGTTGTTTACTGGTCTT 1595
Qy      441 CysAsnGluLeuLeuGluIleSerGluProLeuGluThrGlySerValAlaSerSer 459
Db      1596 TGTAATGAGCTCTTGAATTAGCGAGCCCCTCGAGACCGGATCAGTTGCTTCCTCG 1652

```

```

RESULT 2
US-10-510-871-61
; Sequence 61, Application US/10510871
; Publication No. US20050221290A1
; GENERAL INFORMATION:
; APPLICANT: INZE, DIRK
; APPLICANT: BROEKERT, WILLEM
; TITLE OF INVENTION: IDENTIFICATION AND VALIDATION OF NOVEL TARGETS FOR AGROCHEMICALS
; FILE REFERENCE: 4559-045163
; CURRENT APPLICATION NUMBER: US/10/510,871
; CURRENT FILING DATE: 2004-10-08
; PRIOR APPLICATION NUMBER: PCT/EP03/03703
; PRIOR FILING DATE: 2003-04-08
; PRIOR APPLICATION NUMBER: EP 02447062.7
; PRIOR FILING DATE: 2002-04-10
; PRIOR APPLICATION NUMBER: US 60/396,124
; PRIOR FILING DATE: 2002-08-01
; NUMBER OF SEQ ID NOS: 794
; SOFTWARE: patentin version 3.2
; SEQ ID NO 61
; LENGTH: 1729
; TYPE: DNA
; ORGANISM: Unknown Organism

```

Art Unit: 1638

Db 1356 CAAGGTGTCTTCTACCTCGAGCCAACTAGTGCCTTTATGAGTTGTGAGCGCAGCG 1415
Qy 1141 TTAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTCTGTAAAAAGCGGGTG 1200
Db 1416 TTAAAGGAACCAAGCTTAGAGTCGAATTGTTACATCCGGTCTGTAAAAAGCGGGTG 1475
Qy 1201 ATTCCCCATTTCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTGGTT 1260
Db 1476 ATTCCCCATTTCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTGGTT 1535
Qy 1261 CCTGCAGCTCTACTCAAATTAAACCTATCGAAACAGATTCTGTTGTTTACTGGCTT 1320
Db 1536 CCTGCAGCTCTACTCAAATTAAACCTATCGAAACAGATTCTGTTGTTTACTGGCTT 1595
Qy 1321 TGTAATGAGCTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1380
Db 1596 TGTAATGAGCTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1655

Applicants point out that in response to the prior rejection, claim 4 has been amended to recite: "A method for improving plant growth characteristics, said method comprising introducing and expressing in a plant an isolated nucleic acid molecule encoding a GRUBX protein, said GRUBX protein consisting of the amino acid sequence set forth in SEQ ID NO:2.".

Applicants maintain that with respect to INZE et al. I being treated as a section 102(a) reference, that INZE et al. I does not teach a method of improving plant characteristics via introduction and expression of a nucleic acid molecule encoding a protein consisting of the amino acid sequence set forth in SEQ ID NO:2. (reply pages 11-12)

The Examiner maintains that both INZE et al. I and II anticipate the rejected claims, as the recitation in the preamble of claim 4 is an intended use for the claimed method, and thus not limiting. The Examiner also maintains that the nucleic acid molecule taught by INZE et al. I and II encodes a protein consisting of the amino acid sequence set forth in SEQ ID NO:2, as evidenced by the start and stop codons of SEQ ID NO:61.

Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Collins/
Primary Examiner, Art Unit 1638

CC